

Remarks

Applicant respectfully requests that this Amendment After Final Action be admitted under 37 C.F.R. § 1.116.

Applicant submits that this Amendment presents claims in better form for consideration on appeal. Furthermore, applicant believes that consideration of this Amendment could lead to favorable action that would remove one or more issues for appeal.

No claims have been amended. No claims have been canceled. Therefore, claims 1-32, 35-42, 45-48 and 52 are now presented for examination.

Claims 1-32, 35-42, 45-48 and 52 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Particularly, the claims stand rejected because it is asserted that the specification does not disclose a heat pipe attached via a clamp. Applicants submit that the specification clearly enables the claims in the present application. FIG. 1A and the corresponding description (e.g., col. 3, ll. 9-24) clearly discloses an integral clamp structure 24 that is provided for attaching a heat pipe to a heat exchanger housing. Further FIG. 5 clearly discloses another view of a heat exchanger housing having a heat pipe attached. Therefore, applicants submit that the present specification provides a description that more than adequately enables one of ordinary skill in the art to make and use the invention as claimed.

Claims 1-7, 9-14, 16-26, 28-32, 35-42, 45-48 and 52 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kitahara et al. (U.S. Patent No. 5,583,316). Applicants submit that the present claims are patentable over Kitahara.

Kitahara discloses an integral fan type heat-generating element cooling device wherein a fan unit is disposed at the side of an assembly of a heat-generating element and a heat sink connected by a cover prepared by a material with a good heat conductivity. One or more side plates of the fan unit are provided with openings. The openings are provided at the back side of the fan unit, that is, the side furthest from the heat sink. By allowing part of the air to escape, a rise in the air pressure at the back of the closed fan unit is avoided, pressure loss of the fan is reduced, and the load is lightened, resulting in making it possible for a sufficient amount of air to be secured. See Kitahara at Figures 72 and 73.

Kitahara also discloses another embodiment of the heat-generating element cooling device where the heat sink is affixed on a printed circuit board adjoining a heat-generating element. A heat pipe is laid between the heat sink and the heat-generating element. The heat pipe is affixed to the top surface of the heat sink and the other end is affixed to the heat-generating element. The heat pipe is formed in a flat fork-shape branching at the heat sink side so as to be directly struck by the cooling air from the fan unit and cool above a high heat emitting portion of the heat-generating element at the heat-generating element side. To house one end of the fork, the heat sink is formed with a space for fitting it where no pin-shaped cooling fins are provided. The heat-generating element side is mounted on the top surface of the heat-generating element sandwiched in between a base plate affixed using for example an adhesive with a good heat conductivity and a fixing plate screwed to the base plate (Figures 45 and 46).

Claim 1 of the present application recites a housing having a clamp wherein a condenser portion of a heat pipe is attached to the housing via the clamp. Applicant

submits that Kitahara does not disclose or suggest attaching a heat pipe to a housing via a clamp. The Examiner, however, asserts that Kitahara discloses a heat pipe mounted on a structure of a device via a clamp. See Office Action at page 4, paragraph 2. Applicants respectfully disagree with the Examiner's assertion. Kitahara discloses that a fitting 56 is affixed to a heat sink 2 by fastening flanges 56c together with a fan unit 3 to heat-radiating fins 4 or specially provided support columns positioned at four corners of the heat sink 2. Thus, the forked portion of the heat pipe 55 is sandwiched between the top surface of the heat sink 2 and the pipe holding grooves 56a. See Kitahara at Figure 49.

Nevertheless, a heat pipe is laid between a heat sink and a heat-generating element and formed in a flat fork-shape branch at the heat sink side is not equivalent to attaching heat pipe to a housing via a clamp. Consequently, claim 1 is patentable over Kitahara.

Claims 2-8 depend from claim 1 and include additional features. Thus, claims 2-8 are also patentable over Kitahara.

Independent claims 9, 16, 19, 20, 28, 35-37, 45 and 52 each include a feature related to a clamp attaching a heat pipe to a housing of an air duct. Thus, independent claims 9, 16, 19, 20, 28, 35-37, 45 and 52, and their respective dependent claims are also patentable over Kitahara.

Claims 8, 15, and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kitahara et al. in view of Nelson (U.S. Patent No. 4,923,000). Applicants submit that the present claims are patentable over Kitahara even in view of Nelson.

Nelson discloses a fluid heat exchanger for cooling an electronic component including a housing having a fluid inlet and fluid outlet. Piezoelectric means are

connected to a plurality of flexible blades for pumping fluid from the inlet to the outlet. A heat conductive structure is connected to the housing base for conducting heat to the fluid. The heat conductive structure may include the flexible blades and/or fixed metal fins. See Nelson at Abstract.

Nonetheless, Nelson does not disclose or suggest attaching a heat pipe to a housing via a clamp. As discussed above, Kitahara does not disclose or suggest attaching a heat pipe to a housing via a clamp. Since neither Kitahara nor Nelson disclose or suggest attaching a heat pipe to a housing via a clamp, any combination of Kitahara and Nelson would also not disclose or suggest such a feature. Thus, the present claims are patentable over Kitahara in view of Nelson

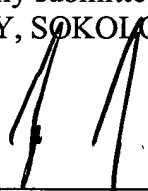
Applicant respectfully submits that the rejections have been overcome, and that the claims are in condition for allowance. Accordingly, applicant respectfully requests the rejections be withdrawn and the claims be allowed.

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,
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